



# UNITED STATES PATENT AND TRADEMARK OFFICE

*Handwritten signature*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,936	03/25/2005	Ayrookaran J. Poulse	GC717-2-US	1489

7590 12/08/2005

Kamrin T MacKnight  
Genencor International Inc  
925 Page Mill Road  
Palo Alto, CA 94304-1013

EXAMINER

MOORE, WILLIAM W

ART UNIT	PAPER NUMBER
----------	--------------

1656

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/500,936

Applicant(s)

POULOSE, AYROOKARAN J.

Examiner

William W. Moore

Art Unit

1656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-18 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

*Election/Restrictions*

Restriction is required under 35 U.S.C. §§ 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted. The Groups are as follows:

1. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 7 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
2. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 23 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
3. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 26 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
4. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 28 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
5. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 29 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
6. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 30 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding

Art Unit: 1656

the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.

7. Claims 1-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 31 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
8. Claims 1-3, 5-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 47 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
9. Claims 1-3, 6, 12-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 61 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
10. Claims 1-3, 5, 6, 9, 12-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 66 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
11. Claims 1-3, 6, 9-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 69 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
12. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 73 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
13. Claims 1-3, 5, 6, 9-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 82 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
14. Claims 1-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 85 in the sequence of subtilisin

Art Unit: 1656

BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.

15. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 88 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
16. Claims 1-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 90 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
17. Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 92 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
18. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 93 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
19. Claims 1-3, 5-9, 12-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 105 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
20. Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 113 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
21. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 139 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.

Art Unit: 1656

22. Claims 1-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 148 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
23. Claims 1-9 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 149 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
24. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 150 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
25. Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 151 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
26. Claims 1-3, 6-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 174 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
27. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 178 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
28. Claims 1-3, 5-9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 200 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
29. Claims 1-3, 5-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 201 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding

Art Unit: 1656

the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.

30. Claims 1-3, 6, 9-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 203 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
31. Claims 1-6, 9-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 231 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
32. Claims 1-6, 9-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 233 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
33. Claims 1-3, 6, 9-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 258 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
34. Claims 1-6, 9-12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 267 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.
35. Claims 1-6, 9, 12 and 15-18, drawn in part to a subtilisin modified by an amino acid substitution at a position corresponding to position 273 in the sequence of subtilisin BPN', a detergent composition comprising the subtilisin, a polynucleotide encoding the subtilisin, an expression vector comprising the polynucleotide, and a host cell transformed with the expression vector.

The inventions listed as Groups 1-35 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: No single modified subtilisin, and no subset of modified subtilisins, recited in the several claims is disclosed to have a distinguishing, or special, functional characteristic conferred by a substitution

Art Unit: 1656

at a recited position that is not shared by another modified subtilisin where a substitution occurs at another recited position. Where no modified subtilisin of Groups 1-35 shares a same or corresponding technical feature that is special with another modified subtilisin of Groups 1-35, there is no unity of invention among the inventions of Groups 1-35.

A telephone call was made to Ms. Kamrin T. MacKnight on 7 December 2005 to request an oral election to the above restriction requirement, but did not result in an election being made. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

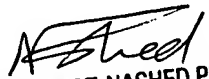
Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### *Conclusion*

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William W. Moore whose telephone number is 571.272.0933 and whose FAX number is 571.273.0933. The examiner can normally be reached Monday through Friday between 9:00AM and 5:30PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisory Primary Examiner, Dr. Kathleen Kerr, can be reached at 571.272.0931. The official FAX number for all communications for the organization where this application or proceeding is assigned is 571.273.8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571.272.1600.

William W. Moore  
8 December 2005

  
NASHAAT T. NASHED PHD.  
PRIMARY EXAMINER